

What is claimed is:

1. A method for manufacturing an EMI-shielding assembly having a substrate comprising the steps of:

- (a) providing oxygen plasma to clean the substrate;
- (b) ion plating the cleaned substrate with an adhesion layer;
- (c) ion plating the plated substrate with a metal shielding layer; and
- (d) ion plating the plated substrate with a corrosion-resistant layer.

2. The method of claim 1, wherein the temperature of the substrate should be maintained below 80 °C during the process of ion-plating.

3. The method of claim 1, wherein the vacuum pressure is maintained between  $1 \times 10^{-6}$  and  $1 \times 10^{-8}$  Torr during the process of ion-plating.

4. The method of claim 1, wherein step (a) is processed in a vacuum chamber, and oxygen gas is introduced into the vacuum chamber at a volumetric flow rate of between 200 and 2000 standard cubic centimeters per minute (SCCM).

5. The method of claim 1, wherein in step (b) the adhesion layer is made of nickel or phosphorus nickel.

6. The method of claim 5, wherein in step (c) the metal shielding layer is made of copper.

7. The method of claim 6, wherein in step (d) the corrosion-resistant layer is made of stainless steel.

8. The method of claim 1, wherein the plated substrate is selectively ion plated with a layer of nickel or phosphorus nickel.

9. The method of claim 8, wherein the plated substrate is ion plated with a layer of copper on the nickel or phosphorus nickel layer.

10. A method for manufacturing an EMI-shielding assembly having a substrate comprising the steps of:

(a) cleaning the substrate;

(b) ion plating the cleaned substrate with an adhesion layer made of a first metal material; and

(c) ion plating the plated substrate with a shielding layer made of a second metal material.

11. The method of claim 10, wherein after the step (c), the substrate is ion plated with a corrosion-resistant layer comprising stainless steel.

12. The method of claim 10, wherein in step (a), the substrate is cleaned using oxygen plasma.

13. The method of claim 10, wherein the first metal material is nickel and the second metal material is copper.
14. An EMI-shielding assembly, comprising:
  - a substrate made of plastic material;
  - an adhesion layer applied to the substrate;
  - a metal shielding layer adhered to the adhesion layer of the substrate; and
  - a corrosion-resistant layer adhered to the metal shielding layer.
15. The EMI-shielding assembly of claim 14, wherein the adhesion layer is made of nickel.
16. The EMI-shielding assembly of claim 14, wherein the adhesion layer is made of phosphorus nickel.
17. The EMI-shielding assembly of claim 15 or claim 16, wherein the adhesion has a thickness of  $5 \times 10^{-9}$  to  $10 \times 10^{-9}$  meters.
18. The EMI-shielding assembly of claim 14, wherein the metal shielding layer is made of copper.
19. The EMI-shielding assembly of claim 18, wherein the metal shielding layer has a thickness of  $3 \times 10^{-7}$  to  $6 \times 10^{-7}$  meters.

20. The EMI-shielding assembly of claim 14, wherein the corrosion-resistant layer is made of stainless steel and has a thickness in the range of  $2 \times 10^{-8}$  and  $20 \times 10^{-8}$  meters.

21. The EMI-shielding assembly of claim 14, wherein said adhesion layer is made of metal.